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U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF LAND MANAGEMENT

WIRE GATE LATCH

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An employee suggestion submitted by Karl Simonson (presently working in the Burley, Idaho District) and William Schowe of the Salt Lake District Office, Salt Lake City, Utah, recommends a design for Bureau-wide standardization of wire gate latches. The suggestion has been recommended for use by all Bureau offices.

The latch is constructed from 1 1/4 inch angle iron, 1/4" x 1 1/4" steel strap, 3/8" steel rod, 1/4" welded link chain, two chain repair or lap links and 5/16" x 3" lag bolts. The tension pin (see drawing) is made from a 5/16" x 4" carriage bolt placed through the link of a small chain and secured to the chain by a nut. The other end of the short length of chain is stapled to the top of the gate post. The latch is easily constructed and installed with a minimum of tools.

To construct and install the latch, one needs only look at the "Lever & Mounting Bracket Detail" (Fig. 1) and diagram (Fig. 2) and follow these steps.

CONSTRUCTION

1. Cut two 4 inch lengths of 1 1/4 inch angle iron and round the corners. Drill 5/16 inch holes in the locations shown (Fig. 1).

2. Cut one 20 inch length of 1 1/4" x 1/4" steel strap and round the ends. Drill 3/8 inch holes in the locations shown (Fig. 1).

3. Attach the lever to the mounting bracket with a 5/16" x 1 1/2" bolt. Secure the lever to the bracket with a lock washer and nut. Leave only enough clearance to allow free movement of the lever.

4. Bend the 3/8" steel rod into a ring large enough to easily slip over the size of gate stay being used (5" diameter ring should be large enough in most cases). Attach the ring to one end of the 1/4" welded link chain with a chain repair link (lap link). The exact length of chain needed will be determined when the latch is installed.

5. Make the tension pin by inserting a 5/16" x 4" carriage bolt (threaded full length) through the link of a small chain and turn a nut on until the chain is pressed against the head of the bolt. The chain should be at least 1 1/2 feet long. The exact length is determined when the latch is installed.

INSTALLATION

1. Drill a hole through the gate post near the top (see photograph). The hole should be large enough to allow the 1/4" welded link chain to easily pass through it.

2. Bolt the bracket and lever to the gate post approximately six inches below the hole drilled in step 1.

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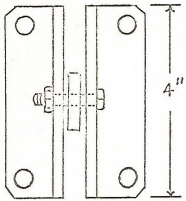
3. Thread the chain through the hole, leaving the steel ring on the gate side of the post. Place the ring over the gate stay and cut the chain to a length that will allow the desired range of tensions. Attach the end of the chain to the lever with a chain repair link.

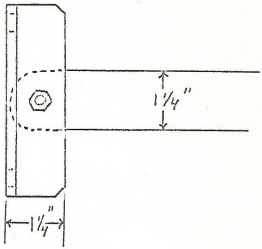
4. Attach the tension pin and small chain to the top of the post with a fence staple.

5. The latch is now ready to operate!

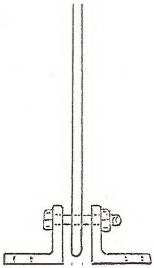
This latch is a real improvement over the typical wire loop latch from a safety point of view as well as from the ease of opening and closing aspect. By using this latch, wire gates can be easily opened and closed by men, women, and even children. This latch, if used on all Bureau gates, should gain public acceptance quickly and hence more gates will be closed!



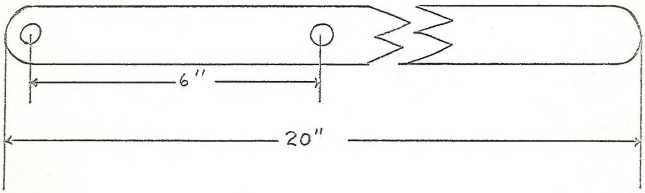
FRONT VIEW



SIDE VIEW



TOP VIEW



MOUNTING BRACKET AND LEVER DETAIL

(FIGURE 1)

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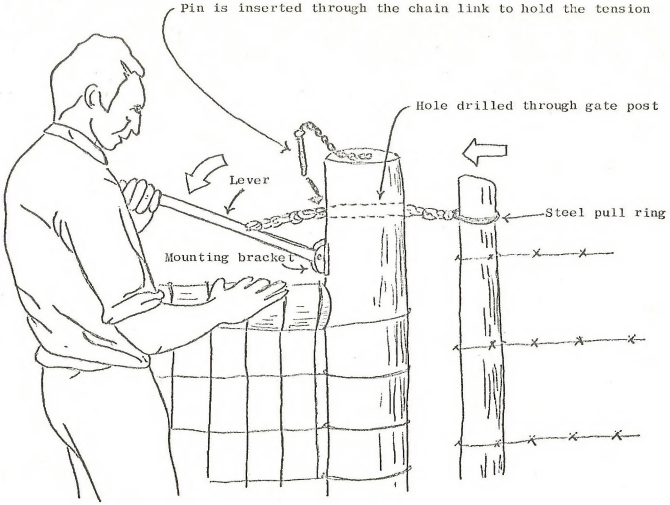

FIGURE 2

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